

CLOUDSAT

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CloudSat is being developed to measure the vertical structure of clouds from space. This mission, which was approved by NASA in April, is designed to investigate feedback mechanisms linking clouds and climate. CloudSat will fill a gap in current observational systems that can only passively sense the uppermost cloud layer and are usually unable to observe the structure of underlying clouds. Measuring the vertical cloud profile will require a combination of active and passive instruments. CloudSat integrates a 94-GHz cloud profiling radar (CPR) with a profiling A-band spectrometer/visible imager (PABSI). The CPR will map vertical cloud profiles with 500 meter vertical resolution. PABSI will detect and profile very thin clouds and image the regional cloud field. CloudSat will be launched in 2003 with PICASSO, the aerosol and cloud lidar mission. They are designed to fly in formation with the EOS-PM platform. These three spacecraft will be able to concurrently profile the atmosphere with a radar, lidar, A-band spectrometers, microwave and millimeter-wave radiometers, and multi-spectral imagers producing a rich data set with which to investigate cloud, aerosols, and radiation processes.

cloud measurements
cloud profiling
atmospheric radiation

* Steve Walter will give the presentation.